

11/23/2011

Page 1 of 1

1214842 - R8 SDMS



Third West Weekly Report
Shepherd, Michael

to:

Joyce Ackerman, 'Craig Barnitz (cbarnitz@utah.gov)'

11/23/2011 12:15 PM

Hide Details

From: "Shepherd, Michael" <Michael.Shepherd@PacifiCorp.com>

To: Joyce Ackerman/R8/USEPA/US@EPA, "Craig Barnitz (cbarnitz@utah.gov)"
<cbarnitz@utah.gov>

8 Attachments



Weekly Report 11-14 through 11-20.pdf Third West Weekly Log 2011-46.pdf 224384-1.pdf 224385-1.pdf 224386-1.pdf



224473-1.pdf 224653-1.pdf 224715-1.pdf

Joyce & Craig,

Attached are the reports for the week of November 14, 2011.

All air monitoring results came back negative.

Please let me know if you have any questions.

Thanks,

Mike Shepherd
Project Manager
Rocky Mountain Power - Major Projects
801.220.4584 Office
801.631.1310 Cell
801.220.2797 Fax
michael.shepherd@pacificorp.com

REI LAB ***Reservoirs Environmental, Inc.***

November 23, 2011

David Roskelley
R & R Environmental
47 West 9000 South #2
Sandy UT 84070

Laboratory Code: RES
Subcontract Number: NA
Laboratory Report: RES 224715-1
Project # / P.O. #: None Given
Project Description: Rocky Mtn. Power 3rd
West Sub Station

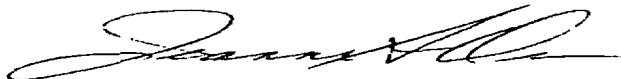
Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 224715-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,



Jeanne Spencer Orr
President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number: RES 224715-1
 Client: R & R Environmental
 Client Project Number / P.O.: None Given
 Client Project Description: Rocky Mtn. Power 3rd West Sub Station
 Date Samples Received: November 22, 2011
 Analysis Type: TEM, AHERA
 Turnaround: 24 Hour
 Date Samples Analyzed: November 22, 2011

Client ID Number	Lab ID Number	Area Analyzed (mm ²)	Air Volume Sampled (L)	Number of Asbestos Structures Detected	Analytical Sensitivity (s/cc)	Asbestos Concentration (s/cc)	Filter Loading (s/mm ²)
3W111811-E	EM 827622	0.0900	948	ND	0.0045	BAS	BAS
3W111811-S	EM 827623	0.0900	948	ND	0.0045	BAS	BAS
3W111811-N	EM 827624	0.0900	942	ND	0.0045	BAS	BAS
3W111811-W	EM 827625	0.0900	942	ND	0.0045	BAS	BAS

NA = Not Analyzed
 ND = None Detected
 BAS = Below Analytical Sensitivity
 Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester
 Filter Diameter = 25 mm
 Effective Filter Area = 385 sq mm

Digitally signed by
 Elisha Ellerman
 DN: CN = Elisha
 Ellerman, C = US,
 O = Reservoirs
 Environmental,
 Inc.,
 Date: 2011.11.23
 11:46:44 -07'00'

EE

DATA QA



3rd West Substation Site Project Safety Audit

Project: 3rd West Sub Station

Date: 11/14/11

Location: 3rd West, 1st South, SLC

Job Number: _____

Survey Conducted By: Justin Kargis

Title: _____

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			x	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	x			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			x	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

		In Compliance	Out of Compliance	N/A	
<i>Standard</i>	<i>Title</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Corrective Action Taken and Date</i>
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			x	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.	x			
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			x	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	x			

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.451 (a) (4)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			x	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			x	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.			x	
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	x			
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			x	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
Standard	Title	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			X	
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			x	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.	x			
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f) (7)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			x	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			x	

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.	x			
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.	x			
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			x	

Comments:

Newman continued backfilling and compacting around G structure spread footings.

R&R sampled fire tile and mortar on old control building.

CVE poured foundation for new transformer and two more g structure piers.

Eagle environmental on site to put up poly around perimeter fence for next exclusion zone.

CVE line crew finished removal of old UTA terminal service pole.

3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

DATE: 11/14/11

General

- ☒ Work area Health and Safety Inspection
- NA Review and if necessary update Activity Hazard Analyses (AHA) based on planned site activities for the day
- NA Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
- NA Site hazard and safety instruction for all first time employees, contractors or visitors
- NA Complete Employee Meeting Record Form B (where applicable)
- NA Document required Respirator Training completion with Form H
- NA Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
- NA Confirm return of waste material manifest documents for each load with site manager.
- NA Complete all CSHASP Forms (for applicable activities planned for that day)
 - NA Illness/Injury Report Form A
 - NA Site-Specific Training Record Form C
 - NA Hot Work Permit Form D
 - NA Trench/Evacuation Permit Form E
 - NA Combined Space Entry Permit Form F
 - NA Exclusion zone operations are practiced as instructed.
 - NA Decontamination unit is working properly.
 - NA Workers are using decontamination unit as instructed.
 - NA Workers use personal protective equipment properly.
- ☒ Set air samples at cardinal compass points around exclusion zone. Check throughout the day to ensure proper operation.
- ☒ Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.
- ☒ Review sign-in/sign-out log throughout and at the end of the workday.
- ☒ Secure the site at the end of the workday

Sampling

- NA Soil Confirmation sampling for any newly excavated areas
- ☒ Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusions zone
- NA Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
- NA Digitally photograph each sample location and at any place field sampling personnel determined necessary

- NA Electronically file photo files into the on-site database
- ☒ Complete Field Documentation
 - ☒ Field Sample Data Sheets (FSDS)
 - ☒ Logbook
- NA On-site computer database
- ☒ Label each sample media with a unique number
- ☒ Seal sample(s) in zip lock plastic bags
- ☒ Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
- ☒ Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
- ☒ Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
- ☒ Electronically file sample reports into on-site database



3rd West Substation Site Project Safety Audit

Project: 3rd West Sub Station **Date:** 11/15/11
Location: 3rd West, 1st South, SLC **Job Number:** _____
Survey Conducted By: Jon Craig **Title:** IH Technician

		In Compliance	Out of Compliance	N/A	
<i>Standard</i>	<i>Title</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Corrective Action Taken and Date</i>
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			x	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	x			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			x	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toeboards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.	x			
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.	x			
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.	x			
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toeboards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.	x			
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			x	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.	x			
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	x			

		In Compliance	Out of Compliance	N/A	
<i>Standard</i>	<i>Title</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Corrective Action Taken and Date</i>
1926.451 (a) (4)	Scaffolding shall have guardrails and toeboards when more than 10 feet high and when less than 45 inches of work space.			x	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			x	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.	x			
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.	x			
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.	x			
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	x			
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.	x			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
Standard	Title	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			x	
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			x	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			x	
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.			x	
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f) (7)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			x	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			x	

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<i>Standard</i>	<i>Title</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Corrective Action Taken and Date</i>
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1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			x	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.	x			

Comments:

Newman backfilling around the Footings, pillars/stems and transformer slab in the main excavated pit.

CVE removing framing from last two pillar/stems and transformer slab in the main excavated pit.

No disturbance of contaminated soil in the exclusion zone.

3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

DATE: 11/15/11

General

- ☒ Work area Health and Safety Inspection
- NA Review and if necessary update Activity Hazard Analyses (AHA) based on planned site activities for the day
- NA Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
- NA Site hazard and safety instruction for all first time employees, contractors or visitors
- NA Complete Employee Meeting Record Form B (where applicable)
- NA Document required Respirator Training completion with Form H
- NA Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
- NA Confirm return of waste material manifest documents for each load with site manager.
- NA Complete all CSHASP Forms (for applicable activities planned for that day)
 - NA Illness/Injury Report Form A
 - NA Site-Specific Training Record Form C
 - NA Hot Work Permit Form D
 - NA Trench/Evacuation Permit Form E
 - NA Combined Space Entry Permit Form F
 - NA Exclusion zone operations are practiced as instructed.
- NA Decontamination unit is working properly.
- NA Workers are using decontamination unit as instructed.
- NA Workers use personal protective equipment properly.
- ☒ Set air samples at cardinal compass points around exclusion zone. Check throughout the day to ensure proper operation.
- ☒ Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.
- ☒ Review sign-in/sign-out log throughout and at the end of the workday.
- ☒ Secure the site at the end of the workday; PacifiCorp Employee

Sampling

- NA Soil Confirmation sampling for any newly excavated areas
- NA Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusions zone
- NA Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
- NA Digitally photograph each sample location and at any place field sampling personnel determined necessary

- NA Electronically file photo files into the on-site database
- ☒ Complete Field Documentation
 - ☒ Field Sample Data Sheets (FSDS)
 - ☒ Logbook
 - NA On-site computer database
- ☒ Label each sample media with a unique number
- ☒ Seal sample(s) in zip lock plastic bags
- ☒ Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
- ☒ Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
- ☒ Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
- NA Electronically file sample reports into on-site database



3rd West Substation Site Project Safety Audit

Project: 3rd West Sub Station

Date: 11/16/11

Location: 3rd West, 1st South, SLC

Job Number: _____

Survey Conducted By: Justin Kargis

Title: _____

		In Compliance	Out of Compliance	N/A	
Standard	Title	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Corrective Action Taken and Date
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			x	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	x			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			x	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

<i>Standard</i>	<i>Title</i>	In Compliance	Out of Compliance	N/A	<i>Corrective Action Taken and Date</i>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			x	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.	x			
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			x	
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1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.			x	
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	x			
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			x	

		In Compliance	Out of Compliance	N/A	
<i>Standard</i>	<i>Title</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Corrective Action Taken and Date</i>
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			X	
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			x	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.	x			
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f) (7)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			x	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			x	

		In Compliance	Out of Compliance	N/A	
Standard	Title	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Corrective Action Taken and Date
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.	x			
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.	x			
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			x	

Comments:

Newman continued backfilling and compacting around G structure stems.

CVE worked on forming the wall for the new transformer foundation.

3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

DATE: 11/16/11

General

- ☒ Work area Health and Safety Inspection
- NA Review and if necessary update Activity Hazard Analyses (AHA) based on planned site activities for the day
- NA Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
- NA Site hazard and safety instruction for all first time employees, contractors or visitors
- NA Complete Employee Meeting Record Form B (where applicable)
- NA Document required Respirator Training completion with Form H
- NA Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
- NA Confirm return of waste material manifest documents for each load with site manager.
- NA Complete all CSHASP Forms (for applicable activities planned for that day)
 - NA Illness/Injury Report Form A
 - NA Site-Specific Training Record Form C
 - NA Hot Work Permit Form D
 - NA Trench/Evacuation Permit Form E
 - NA Combined Space Entry Permit Form F
 - NA Exclusion zone operations are practiced as instructed.
 - NA Decontamination unit is working properly.
 - NA Workers are using decontamination unit as instructed.
 - NA Workers use personal protective equipment properly.
- ☒ Set air samples at cardinal compass points around exclusion zone. Check throughout the day to ensure proper operation.
- ☒ Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.
- ☒ Review sign-in/sign-out log throughout and at the end of the workday.
- ☒ Secure the site at the end of the workday

Sampling

- NA Soil Confirmation sampling for any newly excavated areas
- ☒ Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusions zone
- NA Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
- NA Digitally photograph each sample location and at any place field sampling personnel determined necessary

- NA Electronically file photo files into the on-site database
- ☒ Complete Field Documentation
 - ☒ Field Sample Data Sheets (FSDS)
 - ☒ Logbook
- NA On-site computer database
- ☒ Label each sample media with a unique number
- ☒ Seal sample(s) in zip lock plastic bags
- ☒ Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
- ☒ Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
- NA Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
- ☒ Electronically file sample reports into on-site database



3rd West Substation Site Project Safety Audit

Project: 3rd West Sub Station

Date: 11/17/11

Location: 3rd West, 1st South, SLC

Job Number: _____

Survey Conducted By: Justin Kargis

Title: _____

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			x	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	x			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			x	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

		In Compliance	Out of Compliance	N/A	
<i>Standard</i>	<i>Title</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Corrective Action Taken and Date</i>
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			x	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.	x			
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			x	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	x			

		In Compliance	Out of Compliance	N/A	
<i>Standard</i>	<i>Title</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Corrective Action Taken and Date</i>
1926.451 (a) (4)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			x	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			x	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.			x	
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	x			
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			x	

		In Compliance	Out of Compliance	N/A	
<i>Standard</i>	<i>Title</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Corrective Action Taken and Date</i>
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			X	
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			x	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.	x			
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f) (7)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			x	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			x	

		In Compliance	Out of Compliance	N/A	
Standard	Title	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Corrective Action Taken and Date
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.	x			
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.	x			
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			x	

Comments:

Newman continued backfilling and compacting around G structure stems.

CVE and Newman relocated decontamination unit to area near stem structures in zone 2.

Continued forming transformer foundation walls.

Newman stockpiled backfill material near east gate.

3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

DATE: 11/17/11

General

- ☒ Work area Health and Safety Inspection
- NA Review and if necessary update Activity Hazard Analyses (AHA) based on planned site activities for the day
- NA Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
- NA Site hazard and safety instruction for all first time employees, contractors or visitors
- NA Complete Employee Meeting Record Form B (where applicable)
- NA Document required Respirator Training completion with Form H
- NA Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
- NA Confirm return of waste material manifest documents for each load with site manager.
- NA Complete all CSHASP Forms (for applicable activities planned for that day)
 - NA Illness/Injury Report Form A
 - NA Site-Specific Training Record Form C
 - NA Hot Work Permit Form D
 - NA Trench/Evacuation Permit Form E
 - NA Combined Space Entry Permit Form F
 - NA Exclusion zone operations are practiced as instructed.
 - NA Decontamination unit is working properly.
 - NA Workers are using decontamination unit as instructed.
 - NA Workers use personal protective equipment properly.
- ☒ Set air samples at cardinal compass points around exclusion zone. Check throughout the day to ensure proper operation.
- ☒ Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.
- ☒ Review sign-in/sign-out log throughout and at the end of the workday.
- ☒ Secure the site at the end of the workday

Sampling

- NA Soil Confirmation sampling for any newly excavated areas
- ☒ Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusions zone
- NA Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
- NA Digitally photograph each sample location and at any place field sampling personnel determined necessary

- NA Electronically file photo files into the on-site database
- ☒ Complete Field Documentation
 - ☒ Field Sample Data Sheets (FSDS)
 - ☒ Logbook
- NA On-site computer database
- ☒ Label each sample media with a unique number
- ☒ Seal sample(s) in zip lock plastic bags
- ☒ Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
- ☒ Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
- NA Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
- ☒ Electronically file sample reports into on-site database



3rd West Substation Site Project Safety Audit

Project: 3rd West Sub Station

Date: 11/18/11

Location: 3rd West, 1st South, SLC

Job Number: _____

Survey Conducted By: Justin Kargis

Title: _____

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			x	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.			x	
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			x	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toeboards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			x	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.	x			
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toeboards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			x	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.			x	

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.451 (a) (4)	Scaffolding shall have guardrails and toeboards when more than 10 feet high and when less than 45 inches of work space.			x	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			x	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.			x	
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.			x	
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.			x	
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			x	

		In Compliance	Out of Compliance	N/A	
<i>Standard</i>	<i>Title</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Corrective Action Taken and Date</i>
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			X	
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.			x	
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			x	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			x	
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.			x	
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f) (7)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer of the tool is double insulated.			x	
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			x	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			x	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
Standard	Title	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.			x	
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			x	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			x	

Comments:

CVE continued working on forming walls for transformer foundation.

Newman potholed with a vacuum trailer down to around 6 feet in the north-central part of the yard to find existing duct bank depths. They double suited and used respirators while working.

Excavated dirt was replaced back into holes and encapsulated with fill material and yard rock.

Area surrounding digs was watered down as well after they completed filling the holes.

Newman continued to stockpile material for future backfilling.

3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

DATE: 11/18/11

General

- ☒ Work area Health and Safety Inspection
- NA Review and if necessary update Activity Hazard Analyses (AHA) based on planned site activities for the day
- NA Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
- NA Site hazard and safety instruction for all first time employees, contractors or visitors
- NA Complete Employee Meeting Record Form B (where applicable)
- NA Document required Respirator Training completion with Form H
- ☒ Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
- Confirm return of waste material manifest documents for each load with site manager.
- NA Complete all CSHASP Forms (for applicable activities planned for that day)
 - NA Illness/Injury Report Form A
 - NA Site-Specific Training Record Form C
 - NA Hot Work Permit Form D
 - NA Trench/Evacuation Permit Form E
 - NA Combined Space Entry Permit Form F
- ☐ Exclusion zone operations are practiced as instructed.
 - ☒ Decontamination unit is working properly.
 - ☒ Workers are using decontamination unit as instructed.
 - ☐ Workers use personal protective equipment properly.
- ☒ Set air samples at cardinal compass points around exclusion zone. Check throughout the day to ensure proper operation.
- ☒ Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.
- ☒ Review sign-in/sign-out log throughout and at the end of the workday.
- ☒ Secure the site at the end of the workday

Sampling

- NA Soil Confirmation sampling for any newly excavated areas
- ☒ Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusions zone
- NA Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
- NA Digitally photograph each sample location and at any place field sampling personnel determined necessary
- ☒ Electronically file photo files into the on-site database

- ☒ Complete Field Documentation
- ☒ Field Sample Data Sheets (FSDS)
- ☒ Logbook
- NA On-site computer database
- ☒ Label each sample media with a unique number
- ☒ Seal sample(s) in zip lock plastic bags
- ☒ Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
- ☒ Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
- NA Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
- NA Electronically file sample reports into on-site database



PHOTO 1



PHOTO 2



PHOTO 3



PHOTO 4

R & REnvironmental, Inc.

47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:

SCALE:

REVIEWED BY:
DCR

DRAWN BY:
JMK

DATE
11/14/2011

FILE:

SITE PHOTOGRAPHS



**3rd West Substation
"2011 Upgrade Project"
Salt Lake City, Utah**



PHOTO 1



PHOTO 2



PHOTO 3



PHOTO 4

R & R Environmental, Inc.

47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:

SCALE:

REVIEWED BY:
DCR

CREATED BY:
JRWC

DATE:
11/15/2011

FILE:

SITE PHOTOGRAPHS



**3rd West Substation
"2011 Upgrade Project"
Salt Lake City, Utah**



PHOTO 1



PHOTO 2

R & REnvironmental, Inc.

47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:

SCALE:

REVIEWED BY:
DCR

DRAWN BY:
JMK

DATE
11/16/2011

FILE:

SITE PHOTOGRAPHS



**3rd West Substation
"2011 Upgrade Project"
Salt Lake City, Utah**



PHOTO 1



PHOTO 2

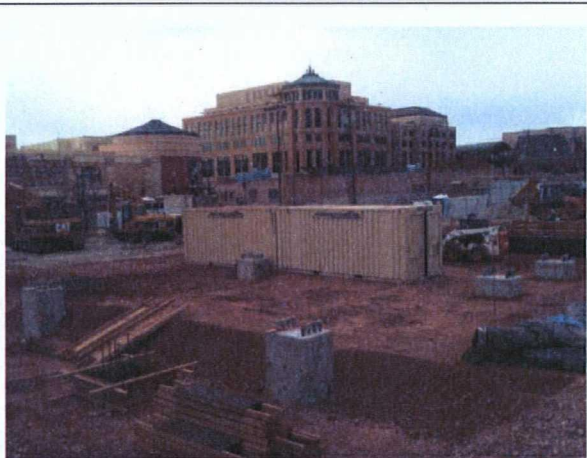


PHOTO 3

R & REnvironmental, Inc.

47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:

SCALE:

REVIEWED BY:

DCR

DRAWN BY:

JMK

DATE

11/17/2011

FILE:

SITE PHOTOGRAPHS



3rd West Substation
"2011 Upgrade Project"
Salt Lake City, Utah

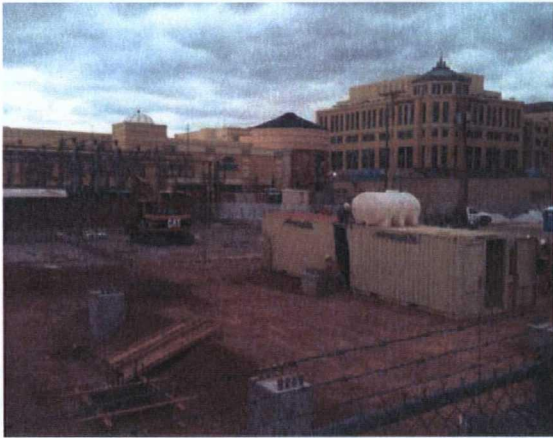


PHOTO 1



PHOTO 2



PHOTO 3

R & REnvironmental, Inc.

47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:

SCALE:

REVIEWED BY:
DCR

DRAWN BY:
JMK

DATE:
11-18-11

FILE:

SITE PHOTOGRAPHS



3rd West Substation
"2011 Upgrade Project"
Salt Lake City, Utah

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME: Third West Sub - Rebuild

DATE: Sunday, November 13, 2011

PO & Work Order NO.: 3000078050 / 10035803

MAIN CONTRACTOR: Cache Valley Electric

Crew Start Time: 23:45

Crew Stop Time: 8:15

Tot Hrs mns: 8:30

FCR Start Time: 23:30

FCR Stop Time: 8:30

Tot Hrs mns: 9:00

Use military time format 00:00

WEATHER CONDITIONS: Light Drizzle, 40 degrees

DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.)

R&R set up four monitors. R&R returned later in the day on Sunday to retrieve the monitors. CVE line crew arrived at the site around 11:30 on Saturday night. They took an outage on the line running south into the substation that serves Artistic Printing and the UTA terminal station. They removed the existing conductor and topped the pole that was in the NW corner of the substation area. This pole conflicts with the new vault that will be placed in that area of the sub. The pole stub will be removed on Monday morning, as well as the old terminal pole for the UTA connection. It rained most of the time the crew was working and after stringing new conductor, changing out the crossarm above the transformers feeding Artistic Printing, and terminating the new feed to UTA, the line was re-energized around 8:00 Sunday morning. CVE line crew = 5.

IF WORKING IN ENERGIZED SUBSTATION:

Dispatcher login, name and time: Paul Farr 2344

Dispatcher logout, name and time: Joe Bryant 0830

DISCREPANCIES:

IMMEDIATE CORRECTIVE ACTION TAKEN:

DELAYS OR LOST TIME ENCOUNTERED:

--

EQUIPMENT (working, delivered, idle):

CVE line crew: Crew truck, bucket truck, line truck, boom truck, pole trailer.

--

OSHA Recordable Safety Incidents:

Reported by:

Time:

--	--	--



Russ Johnson

Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME: Third West Sub - Rebuild

DATE : Monday, November 14, 2011

PO & Work Order NO. : 3000078050 / 10035803

MAIN CONTRACTOR : Cache Valley Electric

Crew Start Time: 7:00

Crew Stop Time: 16:40

Tot Hrs mns: 9:40

FCR Start Time: 6:40

FCR Stop Time: 17:35

Tot Hrs mns: 10:55

Use military time format 00:00

WEATHER CONDITIONS: Sunny, hazy - 52 degrees

DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.)

R&R set up four monitors. (One of the monitors set up for the Saturday night/Sunday morning outage was stolen, prior to the time R&R returned to retrieve their monitors) CVE line crew returned to complete the removal of the old UTA terminal pole and to pull out the old UG cables as well as foaming the top of the UG conduit. CVE line crew cleaned up all materials. CVE Fab crew poured the east transformer floor and the two north pedestals for the spread footings. Newman continues to backfill in the south part of the excavation. Eagle Environmental crew repaired the visqueen by the control building and installed visqueen along the south fence line, across the two west gates, and along the north fence line between the RMP and UTA properties. Estimate for next pour is Thursday or Friday and will include the east transformer wall, two C foundations, two D foundations, one F foundation, all on the south end of the project, and the SE breaker foundation. Concrete slump was at 5.5", the air was at 5% and all compaction tests were greater than the required 95%. CVE fab crew = 4, CVE line crew = 5, Eagle = 2, Newman = 4, R&R = 1, Wilding = 1.

IF WORKING IN ENERGIZED SUBSTATION:

Dispatcher login, name and time: Barry Nielson 0645

Dispatcher logout, name and time: Al Swinski 1730

DISCREPANCIES:

IMMEDIATE CORRECTIVE ACTION TAKEN:

DELAYS OR LOST TIME ENCOUNTERED:

--

EQUIPMENT (working, delivered, idle):

CVE fab crew: Portable toilet (2), forklift, 2 dumpsters, office trailer, conex, exclusion zone conex (2), tool trailer, crew truck, boom truck. CVE line crew: Crew truck, bucket truck, line truck, material truck, pole trailer Newman: portable wash-down structure, trachoe (2), mini-ex, bobcat, power washer, water truck, compactor, backhoe.

OSHA Recordable Safety Incidents:

Reported by: Time:

--	--	--



Russ Johnson

Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME: Third West Sub - Rebuild

DATE: Tuesday, November 15, 2011

PO & Work Order NO. : 3000078050 / 10035803

MAIN CONTRACTOR : Cache Valley Electric

Crew Start Time: 6:55

Crew Stop Time: 17:10

Tot Hrs mns: 10:15

FCR Start Time: 6:45

FCR Stop Time: 17:10

Tot Hrs mns: 10:25

Use military time format 00:00

WEATHER CONDITIONS: Sunny to Partly Cloudy - 40 degrees

DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.)

R&R set up four monitors. CVE line crew laid down copper grid in the south portion of the excavation and Newman has now covered the 4/0 copper wire. All cadweld connections were inspected prior to covering. CVE fab crew stripped the east transformer floor and the two north pedestals and is starting to place rebar and forms for the oil containment walls. Newman has been backfilling around the east transformer foundation and has placed backfill over the 4/0 copper ground grid. CVE fab crew = 4, CVE line crew = 5, Newman = 4, R&R = 1, Wilding = 1.

IF WORKING IN ENERGIZED SUBSTATION:

Dispatcher login, name and time: Barry Nielson 0655

Dispatcher logout, name and time: Al Swinski 1710

DISCREPANCIES:

IMMEDIATE CORRECTIVE ACTION TAKEN:

DELAYS OR LOST TIME ENCOUNTERED:

--

EQUIPMENT (working, delivered, idle):

CVE fab crew: Portable toilet (2), forklift, 2 dumpsters, office trailer, conex, exclusion zone conex (2), tool trailer, crew truck, boom truck. CVE line crew: Crew truck, bucket truck, line truck, material truck, pole trailer Newman: portable wash-down structure, trachoe (2), mini-ex, bobcat, power washer, water truck, compactor, backhoe.

OSHA Recordable Safety Incidents:

Reported by:

Time:



Russ Johnson

Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME: Third West Sub - Rebuild

DATE : Wednesday, November 16, 2011

PO & Work Order NO. : 3000078050 / 10035803

MAIN CONTRACTOR : Cache Valley Electric

Crew Start Time: 7:00

Crew Stop Time: 17:00

Tot Hrs mns: 10:00

FCR Start Time: 6:45

FCR Stop Time: 18:10

Tot Hrs mns: 11:25

Use military time format 00:00

WEATHER CONDITIONS: Sunny to Cloudy - 45 degrees

DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.)

R&R set up four monitors. CVE fab crew is working on the oil containment walls, including forms, rebar, and embeds. Newman is hauling in spoils from the storage site and is backfilling the area south of the east transformer. John Mancini (RMP) dropped by to visit the site. CVE fab crew = 6, Newman = 4, R&R = 1, Wilding = 1.

IF WORKING IN ENERGIZED SUBSTATION:

Dispatcher login, name and time: Blake Spence 0648

Dispatcher logout, name and time: Al Swinski 1745

DISCREPANCIES:

IMMEDIATE CORRECTIVE ACTION TAKEN:

Issue with ground rods not being able to penetrate the concrete floor in the middle section of the 138 kV yard. Contacted Roger Fuerst.

Drwg 148111.003, issue with what material to cover the concrete encased duct bank for transmission runs. Contacted Roger Fuerst and he indicates that the duct bank is to be covered with FTE

DELAYS OR LOST TIME ENCOUNTERED:

EQUIPMENT (working, delivered, idle):

CVE fab crew: Portable toilet (2), forklift, 2 dumpsters, office trailer, conex, exclusion zone conex (2), tool trailer, crew truck, boom truck. CVE line crew: Crew truck, bucket truck, line truck, material truck, pole trailer Newman: portable wash-down structure, trachoe (2), mini-ex, bobcat, power washer, water truck, compactor, backhoe.

OSHA Recordable Safety Incidents:	Reported by:	Time:



Russ Johnson
Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME: Third West Sub - Rebuild

DATE : Thursday, November 17, 2011

PO & Work Order NO. : 3000078050 / 10035803

MAIN CONTRACTOR : Cache Valley Electric

Crew Start Time: 7:00

Crew Stop Time: 17:15

Tot Hrs mns: 10:15

FCR Start Time: 6:35

FCR Stop Time: 17:30

Tot Hrs mns: 10:55

Use military time format 00:00

WEATHER CONDITIONS:

Sunny / Overcast - 50 degrees

DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.)

R&R set up four monitors. CVE fab crew is working on the oil containment walls, including forms, rebar, and embeds. They have completed the interior walls. Today's work includes placement of embeds, tying of horizontal rebars for the walls. They have moved their next pour to Tuesday, November 22. This pour will include the walls, the SE circuit breaker foundation, and the structure F in the SE corner. It may include, depending on the availability of rebar, the two C and the two D foundations on the south end of the 138 kV yard. Newman is hauling in spoils from the storage site and is backfilling the area south of the east transformer. CVE and Newman personnel moved the two DECON conexes to a new location in the middle of spread footings to facilitate setting up the new exclusion area. CVE fabricated the ground jumpers that get installed in the oil containment walls. CVE fab crew = 5, Newman = 4, R&R = 1, Wilding = 1.

IF WORKING IN ENERGIZED SUBSTATION:

Dispatcher login, name and time: Jim Bowman 0638

Dispatcher logout, name and time: Al Swinski 1724

DISCREPANCIES:

IMMEDIATE CORRECTIVE ACTION TAKEN:

No resolution on the 20' ground rod issues or the FTB backfill for the transmission conduits.	

DELAYS OR LOST TIME ENCOUNTERED:

--

EQUIPMENT (working, delivered, idle):

CVE fab crew: Portable toilet (2), forklift, 2 dumpsters, office trailer, conex, exclusion zone conex (2), tool trailer, crew truck, boom truck (2). Newman: portable wash-down structure, trachoe (2), mini-ex, bobcat, power washer, water truck, compactor, backhoe.

OSHA Recordable Safety Incidents:

Reported by:

Time:



Russ Johnson

Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME: Third West Sub - Rebuild

DATE : Friday, November 18, 2011

PO & Work Order NO. : 3000078050 / 10035803

MAIN CONTRACTOR : Cache Valley Electric

Crew Start Time: 7:00

Crew Stop Time: 16:45

Tot Hrs mns: 9:45

FCR Start Time: 6:50

FCR Stop Time: 17:15

Tot Hrs mns: 10:25

Use military time format 00:00

WEATHER CONDITIONS: Cloudy, 48 degrees in morning - 35 degrees in the afternoon.

DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.)

R&R set up four monitors. CVE fab crew is working on the oil containment walls, including forms, rebar, and embeds. They have set the embeds for the interior walls of the oil containment, placed the conduit inserts in the north wall, and completed the rebar for the walls. Today's work includes installation of the ground plates in the interior and exterior faces of the walls, installing the exterior wall panels, and installation of appropriate bracing. Visqueen has been placed over the tops of the walls to prevent snow from falling into the forms. The pour is still scheduled for Tuesday morning at 10:00 am. This pour will include the walls, the SE circuit breaker foundation, and the structure F in the SE corner. It may include the two C and the two D foundations on the south end of the 138 kV yard. Newman is hauling in spoils from the storage site and will be pot-holing with a Vac-truck/trailer to determine depth of the 46 kV duct bank in the area at the west end of the new switchgear. Pot-holing identified that the top of the duct bank is 1/16" higher than the bottom of the switchgear footing. R&R is aware of the pot-holing and has notified RMP Environmental personnel. Custom Fence installed a new "exclusion zone" fence, using removeable panels. This fence extends north, from the south fence line, tying into the DECON facility and extending north to the north fence line. CVE fab crew = 5, Newman = 5, Custom Fence = 2, R&R = 1, Wilding = 1.

IF WORKING IN ENERGIZED SUBSTATION:

Dispatcher login, name and time:	Kim Batt 0655
Dispatcher logout, name and time:	Gus Montanez 1710

DISCREPANCIES:

IMMEDIATE CORRECTIVE ACTION TAKEN:

No resolution on the 20' ground rod issues or the FTB backfill for the transmission conduits.	

DELAYS OR LOST TIME ENCOUNTERED:

--

EQUIPMENT (working, delivered, idle):

CVE fab crew: Portable toilet (2), forklift, 2 dumpsters, office trailer, conex, exclusion zone conex (2), tool trailer, crew truck, boom truck (2). Newman: portable wash-down structure, trachoe (2), mini-ex, bobcat, power washer, water truck, compactor, backhoe.

OSHA Recordable Safety Incidents:

Reported by:

Time:

--	--	--



Russ Johnson

Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME: Third West Sub - Rebuild

DATE : Saturday, November 19, 2011

PO & Work Order NO. : 3000078050 / 10035803

MAIN CONTRACTOR : Cache Valley Electric

Crew Start Time: 8:00

Crew Stop Time: 15:00

Tot Hrs mns: 7:00

FCR Start Time: 7:55

FCR Stop Time: 15:00

Tot Hrs mns: 7:05

Use military time format 00:00

WEATHER CONDITIONS: Overcast, snowed last night, started at 32 degrees to Partly Cloudy at 36 degrees.

DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.)

CVE fab crew set up forms and rebar for the two C foundations, two D foundations, and south circuit breaker foundation. CVE fab crew = 4.

IF WORKING IN ENERGIZED SUBSTATION:

Dispatcher login, name and time: Paul Farr 0810

Dispatcher logout, name and time: Paul Farr 1500

DISCREPANCIES:

IMMEDIATE CORRECTIVE ACTION TAKEN:

No resolution on the 20' ground rod issues or the FTB backfill for the transmission conduits.

DELAYS OR LOST TIME ENCOUNTERED:

EQUIPMENT (working, delivered, idle):

CVE fab crew: Portable toilet (2), forklift, 2 dumpsters, office trailer, conex, exclusion zone conex (2), tool trailer, crew truck, boom truck (2). Newman: portable wash-down structure, trachoe (2), mini-ex, bobcat, power washer, water truck, compactor, backhoe.

OSHA Recordable Safety Incidents:

Reported by:

Time:



Russ Johnson

Field Construction Representative



Reservoirs Environmental, Inc.

November 17, 2011

Laboratory Code: RES
Subcontract Number: NA
Laboratory Report: RES 224384-1
Project # / P.O. #: None Given
Project Description: 3rd West Substation -
PacifiCorp

Eldon Romney
R & R Environmental
47 West 9000 South #2
Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 224384-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer Orr
President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number: RES 224384-1
 Client: R & R Environmental
 Client Project Number / P.O.: None Given
 Client Project Description: 3rd West Substation - PacifiCorp
 Date Samples Received: November 16, 2011
 Analysis Type: TEM, AHERA
 Turnaround: 24 Hour
 Date Samples Analyzed: November 16, 2011

Client ID Number	Lab ID Number	Area Analyzed	Air Volume Sampled	Number of Asbestos Structures Detected	Analytical Sensitivity	Asbestos Concentration	Filter Loading
		(mm ²)	(L)		(s/cc)	(s/cc)	(s/mm ²)
3W-111511-N	EM 825081	0.0800	1210	ND	0.0040	BAS	BAS
3W-111511-S	EM 825082	0.0800	1210	ND	0.0040	BAS	BAS
3W-111511-E	EM 825083	0.0800	1208	ND	0.0040	BAS	BAS
3W-111511-W	EM 825084	0.0800	1208	ND	0.0040	BAS	BAS
Blank (Sample Not Labeled)	EM 825085	NA	0	NA	---	---	---
Blank (Sample Not Labeled)	EM 825086	NA	0	NA	---	---	---

NA = Not Analyzed

ND = None Detected

BAS = Below Analytical Sensitivity

Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester

Filter Diameter = 25 mm

Effective Filter Area = 385 sq mm

DATA QA

Due Time: Jan

RES 224384



Reservoirs Environmental, inc.

5801 Logan St. Denver, CO 80216 • Ph: 303 964-1986 • Fax 303-477-4275 • Toll Free :866 RESI-ENV

Page 1 of 1

SUBMITTED BY:

INVOICE TO: (IF DIFFERENT)**CONTACT INFORMATION:**

Company: R+E Environmental, Inc.	Company:	Contact: Dave Korbellee	Contact
Address: 47 W. 900S. #2	Address:	Phone: 801.541.1035	Phone:
Sandy, Utah 84070		Fax:	Fax:
		Cell/pager:	Cell/pager
Project Number and/or P.O. #:		Final Data Deliverable Email Address:	
Project Description/Location: 3rd West Substation - Pacific Corp		DAVE@RRENVIR.COM	

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm	REQUESTED ANALYSIS	VALID MATRIX CODES		LAB NOTES:	
PLM / PCM / TEM <input type="checkbox"/> RUSH (Same Day) <input checked="" type="checkbox"/> PRIORITY (Next Day) <input type="checkbox"/> STANDARD (Rush PCM = 2hr, TEM = 6hr.)	PLM - Short report, Long report, Point Count TEM - AHERA, Level II, 7402, ISO, +/-, Quant, Semi-quant, Micro-vac, ISO-Indirect Preps PCM - 7400A, 7400B, OSHA DUST - Total, Respirable METALS - Analyte(s) TCLP, Welding Fume, Metals Scan ORGANICS - BTEX, MTBE, 8260, GRO, DRO OTHER -	Air = A	Bulk = B		
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm		Dust = D	Paint = P		
Metal(s) / Dust <input type="checkbox"/> RUSH <input type="checkbox"/> 24 hr. <input type="checkbox"/> 3-5 Day		Soli = S	Wipe = W		
RCRA 8 / Metals & Welding Fume Scan / TCLP <input type="checkbox"/> RUSH <input type="checkbox"/> 5 day <input type="checkbox"/> 10 day		Drinking Water = DW			
Organics <input type="checkbox"/> 24 hr. <input type="checkbox"/> 5 day <input type="checkbox"/> 5 Day		Waste Water = WW			
Prior notification is required for RUSH turnarounds.		Other = O			
Analysis turnarounds are subject to laboratory sample volume and are not guaranteed. You will be notified if delays are expected. Additional fees apply for afterhours and holidays for all analysis types.		**ASTM E1792 approved wipe media only**			
Special Instructions: _____		Sample Volume (L) / Area	Matrix Code	# Containers	
		Date Collected m/d/y	Time Collected h/m a/p	EM Number (Laboratory Use Only)	
Client sample ID number (Sample ID's must be unique)					
1 32-111511-N	AHERA	1.210	A	11/15/11	825081
2 -S		1.210			82
3 -E		1.208			83
4 -W		1.208			84
5 BLANK 7 Samples not labeled					85
6 BLANK					86
7					
8					
9					
10					
11					
12					
13					

Number of samples received: 6 (Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: <u>[Signature]</u> 11/15/11 Date/Time: 1800										Sample Condition: On Ice		Sealed		Intact			
Laboratory Use Only										Temp. (°F)		Y/N		Y/N		S/N	
Received By: <u>[Signature]</u> Date/Time: 11-16-11 6:50 Carrier: FedEx																	
Results:	Contact	Dave	Page	Phone	Email	Fax	Date	Time	Initials	Contact	Page	Phone	Email	Fax	Date	Time	Initials
	Contact									Contact							

Index #: 8692 7025 0406

Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

A = Amosite
An = Anthophyllite
C = Chrysotile
Cr = Crocidolite
T = Tremolite

Structure Types

F = Fiber
B = Bundle
C = Cluster
M = Matrix

ND = no structures detected
M = other structure associated with a matrix
NAM = Non Asbestos Mineral
XGB = partly obscured by a grid bar

Sizing Conversion

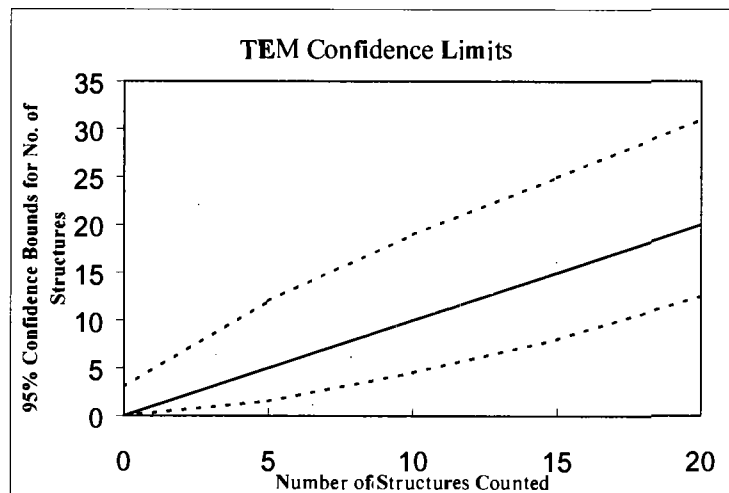
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr
Nathan DelHiero
Angela Heitger
Jonathan Bernard

Paul D. LoScalzo
Mark Steiner
Norberto Zimbleman
Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	Reservoirs Environmental, Inc.
Instrument	JEOL 100 CX N
Voltage (KV)	100 KV
Magnification	20KX
Grid opening area (mm ²)	0.010
Scale: 1L =	0.29 um
Scale: 10 =	0.058 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	N/A
QA Type	Not QA

Client:	R & R Environmental, Inc.
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	1210
Date received by lab	11/16/2011
Lab Job Number:	224384
Lab Sample Number:	825081

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	n.zimbelman
Analysis date	11/16/2011
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	Ahera
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Client Sample ID Number SW-1115N-N

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	E3-1	LD												
	B3-1	LD												
	A3-6	LD												
	B3-6	LD												
	E3-3	LD												
B	E4-1	LD												
	F4-1	LD												
	G4-1	LD												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Reservoir Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	Reservoirs Environmental, Inc.
Instrument	JEOL 100 CX N
Voltage (KV)	100 KV
Magnification	20KX
Grid opening area (mm ²)	0.010
Scale: 1L =	0.29 uni
Scale: 1D =	0.058 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	N/A
QA Type	Not QA

Client:	R & R Environmental, Inc.
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	1210
Date received by lab	11/16/2011
Lab Job Number:	224384
Lab Sample Number:	825082

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	n.zimbelman
Analysis date	11/16/2011
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AHERA
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Client Sample ID Number 3W-111511-3

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	F3-1	LD												
	F3-4	LD												
	G3-3	LD												
	G3-6	LD												
	G4-1	LD												
B	F1-6	LD												
	G1-3	LD												
	H2-1	LD												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

C:\Users\ITEM.RE\LAB\Desktop\ITEM Count Sheet rev.1-13 (version 1).xlsx (version 1)

Reservoir Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	Reservoirs Environmental, Inc.
Instrument	JEOL 100 CX N
Voltage (KV)	100 KV
Magnification	20KX
Grid opening area (mm ²)	0.010
Scale: 1L =	0.29 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	N/A
QA Type	Not QA

Client:	R & R Environmental, Inc.
Sample Type (A=Air, O=Dust):	A
Air volume (L) or dust area (cm ²)	1208
Date received by lab	11/16/2011
Lab Job Number:	224384
Lab Sample Number:	825084

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	n.zimbelman
Analysis date	11/16/2011
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, ANERA, ASTM)	Ahera
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Client Sample ID Number SW-111S11-W

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EOS
A	E3-3	SD												
	E3-4	SD												
	F3-4	SD												
	H3-1	SD												
	H3-6	SD												
B	G6-6	SD												
	F6-6	SD												
	E6-6	SD												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	Reservoirs Environmental, Inc.
Instrument	JEOL 100 CX N
Voltage (KV)	100 KV
Magnification	20KX
Grid opening area (mm ²)	0.010
Scale: 1L =	0.29 um
Scale: 1D =	0.058 um
Primary filter area (mm ²)	365
Secondary Filter Area (mm ²)	N/A
QA Type	Not QA

Client:	R & R Environmental, Inc.
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	1208
Date received by lab	11/16/2011
Lab Job Number:	224384
Lab Sample Number	825083

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	n.zimbelman
Analysis date	11/16/2011
Method (D=Direct, (=Indirect, IA=indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	Ahera
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Client Sample ID Number SW-111511-E

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Wkth		Amphibole	C	NAM		Sketch	Photo	EDS
A	K2-3	4D												
	H2-1	4D												
	G2-4	4D												
	G2-1	4D												
	G1-3	4D												
B	G3-3	4D												
	G3-6	4D												
	H-3-6	4D												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Analytical Procedures – AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

- Fiber:** is a structure having a minimum length greater than or equal to 0.5 micron with an aspect ratio of 5:1 or greater with substantially parallel sides.
- Bundle:** is a structure composed of three or more fibers in parallel arrangement, with each fiber closer than the diameter of one fiber.
- Cluster:** is a structure with fibers in random arrangements such that all fibers are intermixed and no single fiber is isolated from the group.
- Matrix:** is a fiber or fibers with one end free and the other end embedded or hidden by a particulate. The exposed fiber end must meet the fiber definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

$$\text{Area Analyzed, mm}^2 = \# \text{ GO counted} \times \text{Average GO Area (mm)}$$

$$\text{Concentration, s/cc} = \frac{\# \text{ Asbestos Structures}}{\# \text{ GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2\text{)}}{\text{Average GO area (mm}^2\text{)}} \times \frac{1\text{L}}{1000\text{cc}}$$

$$\text{Filter loading, s/mm}^2 = \frac{\# \text{ Asbestos structures}}{\text{Area Analyzed (mm}^2\text{)}}$$

GO = TEM grid opening

Reservoirs Environmental, Inc.

November 17, 2011

Laboratory Code: RES
Subcontract Number: NA
Laboratory Report: RES 224385-1
Project # / P.O. #: None Given
Project Description: 3rd West Substation RMP

Eldon Romney
R & R Environmental
47 West 9000 South #2
Sandy UT 84070

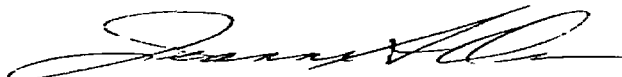
Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 224385-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,



Jeanne Spencer Orr
President

P: 303-964-1986
F: 303-477-4275

5801 Logan Street, Suite 100 Denver, CO 80216

1-866-RESI-ENV
www.reilab.com

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number: RES 224385-1
Client: R & R Environmental
Client Project Number / P.O.: None Given
Client Project Description: 3rd West Substation RMP
Date Samples Received: November 16, 2011
Analysis Type: TEM, AHERA
Turnaround: 24 Hour
Date Samples Analyzed: November 17, 2011

Client ID Number	Lab ID Number	Area Analyzed	Air Volume Sampled	Number of Asbestos Structures Detected	Analytical Sensitivity	Asbestos Concentration	Filter Loading
		(mm ²)	(L)		(s/cc)	(s/cc)	(s/mm ²)
3W111311-S.E.	EM 825087	0.1100	710	ND	0.0049	BAS	BAS
3W111311-N.E.	EM 825088	0.0700	1280	ND	0.0043	BAS	BAS
3W111311-S.W.	EM 825089	0.1000	800	ND	0.0048	BAS	BAS

NA = Not Analyzed

ND = None Detected

BAS = Below Analytical Sensitivity

Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester

Filter Diameter = 25 mm

Effective Filter Area = 385 sq mm

Digitally signed
 by Elisha
 Ellerman
 DN: CN = Elisha
 Ellerman, C =
 US, O =
 Reservoirs
 Environmental,
 Inc.
 Date: 2011.11.17
 11:19:35 -07'00'

Due Date: 11-17-11
Due Time: 5pm

RES 224385

**Reserveirs Environmental, Inc.**

5801 Logan St. Denver, CO 80218 • Ph: 303 964-1966 • Fax 303-477-4276 • Toll Free: 866 RESI-ENV

Page : 308-569-2088

INVOICE TO: (IF DIFFERENT)**CONTACT INFORMATION:**

Company: FLR Environmental		Carroll City:		Contact: Dave Roskelley		Certificate:	
Address: 47 W 9000 S		Address:		Phone:		Pileup:	
Sandy Ut. 84710				Fax:		Fax:	
				Cell/pager: 801 541-1035		Cell/pager:	
Project Number and/or P.O. #:				Final Onsite Deliverable Email Address:			
Project Description/Location: 3rd West Sub Station RMP				dave@rrenviro.com			

[illegible]

Number of samples received: 3 (Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy or original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly late fee surcharge.

Relinquished By: <u>Justin P. [Signature]</u> <u>FedEx</u> Date/Time: <u>11/15/11</u>										Sample Condition:		On Ice		Sealed		Intact	
Laboratory Use Only										Temp. (F°)		Yes / No		Yes / No		Yes / No	
Received By: <u>[Signature]</u> Date/Time: <u>11-16-11</u> Carrier: <u>FedEx</u>																	
Results:	Contact	Phone	Email	Fax	Date	Time	Initials	Contact	Phone	Email	Fax	Date	Time	Initials			
	Contact	Phone	Email	Fax	Date	Time	Initials	Contact	Phone	Email	Fax	Date	Time	Initials			

LMSE

Spec # 79773029 3052

Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

A = Amosite
An = Anthophyllite
C = Chrysotile
Cr = Crocidolite
T = Tremolite

Structure Types

F = Fiber
B = Bundle
C = Cluster
M = Matrix

ND = no structures detected
M = other structure associated with a matrix
NAM = Non Asbestos Mineral
XGB = partly obscured by a grid bar

Sizing Conversion

1 length unit = 5 mm on screen = 0.278 micron

1.80 length units = 0.5 micron

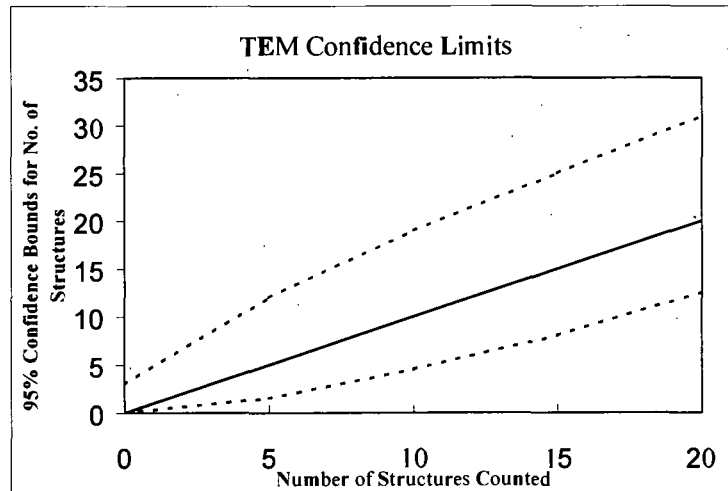
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr
Nathan DelHiero
Angela Heitger
Jonathan Bemard

Paul D. LoScalzo
Mark Steiner
Norberto Zimbleman
Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N(S)
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm ²)	0.011
Scale: 1L =	0.28 μ m
Scale: 1D =	0.056 μ m
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R & R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	710
Date received by lab	11-16-11
Lab Job Number:	224385
Lab Sample Number:	825087

Analyzed by	AH
Analysis date	11-17-11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	64-1	ND												
	F4-4	ND			* Filter was wet									
	F4-1	ND			Prep A: 100% intact			3-5% debris						
	K3-3	ND			Prep B ~ Prep A									
	H3-6	ND												
	H3-3	ND												
	G3-6	ND												
B	E5-1	ND												
	C5-4	ND												
	C5-1	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

REI.LAB

Lab Job Number:

224385

Analyzed by:

A.14

Lab Sample Number

825087

Analysis Date:

11-17-1

[illegible]

Reservoirs Environmental, inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N(S)
Voltage (KV)	100 KV
Magnification	200X 100X
Grid opening area (mm ²)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R & R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	1280
Date received by lab	11-16-11
Lab Job Number:	224385
Lab Sample Number:	825088

Analyzed by	AH
Analysis date	11-17-11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	A4
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	F6-4	MD												
	F6-1	MD												
	E6-4	MD					Prep A: 85% intact	35% debris						
	E6-1	MD					Prep B: 20% intact	35% debris						
B	G2-6	MD												
	G2-3	MD												
	F2-6	MD												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N(S)
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm ²)	0.011
Scale: 1L =	0.28 μ m
Scale: 1D =	0.056 μ m
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R & B
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	800
Date received by lab	11-16-11
Lab Job Number:	224385
Lab Sample Number:	825089

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	AH
Analysis date	11-17-11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	K5-6	ND												
	K5-3	ND					* Wet filter							
	H5-6	ND					Prep A: 100% intact	35% debris						
	H5-3	ND					Prep B: 80% intact	35% debris						
	G5-6	ND												
B	H3-6	ND												
	H3-3	ND												
	G3-6	ND												
	G3-3	ND												
	F3-6	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Analytical Procedures – AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

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The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

$$\text{Area Analyzed, mm}^2 = \# \text{ GO counted} \times \text{Average GO Area (mm)}$$

$$\text{Concentration, s/cc} = \frac{\# \text{ Asbestos Structures}}{\# \text{ GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2\text{)}}{\text{Average GO area (mm}^2\text{)}} \times \frac{1\text{L}}{1000\text{cc}}$$

$$\text{Filter loading, s/mm}^2 = \frac{\# \text{ Asbestos structures}}{\text{Area Analyzed (mm}^2\text{)}}$$

GO = TEM grid opening



Reservoirs Environmental, Inc.

November 17, 2011

Laboratory Code: RES
Subcontract Number: NA
Laboratory Report: RES 224386-1
Project # / P.O. #: None Given
Project Description: 3rd West Substation RMP

Eldon Romney
R & R Environmental
47 West 9000 South #2
Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 224386-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer Orr
President

P: 303-964-1986
F: 303-477-4275

5801 Logan Street, Suite 100 Denver, CO 80216

1-866-RESI-ENV
www.reilab.com

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015


TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number: RES 224386-1
 Client: R & R Environmental
 Client Project Number / P.O.: None Given
 Client Project Description: 3rd West Substation RMP
 Date Samples Received: November 16, 2011
 Analysis Type: TEM, AHERA
 Turnaround: 24 Hour
 Date Samples Analyzed: November 17, 2011

Client ID Number	Lab ID Number	Area Analyzed (mm ²)	Air Volume Sampled (L)	Number of Asbestos Structures Detected	Analytical Sensitivity (s/cc)	Asbestos Concentration (s/cc)	Filter Loading (s/mm ²)
3W111411-E	EM 825090	0.0900	1037	ND	0.0041	BAS	BAS
3W111411-S	EM 825091	0.0900	1069	ND	0.0040	BAS	BAS
3W111411-N	EM 825092	0.0800	1069	ND	0.0045	BAS	BAS
3W111411-W	EM 825093	0.0800	1069	ND	0.0045	BAS	BAS

NA = Not Analyzed
 ND = None Detected
 BAS = Below Analytical Sensitivity
 Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester
 Filter Diameter = 25 mm
 Effective Filter Area = 385 sq mm


 Digitally signed by
 Elisha Ellerman
 DN: CN = Elisha
 Ellerman, C = US,
 O = Reservoirs
 Environmental, Inc.
 Date: 2011.11.17
 11:25:11 -0700

Due Date: 11-17-11
 Due Time: Jan

RES LAB **Reservoirs Environmental, Inc.**

6601 Logan St. Denver, CO 80216 • Ph: 303 964-1936 • Fax 303-477-4275 • Toll Free: 888 RESI-ENV

Pager: 303-871-2088

Page 1 of 1

INVOICE TO: (IF DIFFERENT)

CONTACT INFORMATION:

Company: <u>REI Environmental</u>	Company:	Contact: <u>Dave Koskelley</u>	Contact:
Address: <u>47 W 4000 S</u>	Address:	Phone:	Phone:
<u>Sandy, UT 84070</u>		Fax:	Fax:
		Cell/pager: <u>801 541-1035</u>	Cell/pager:
Project Number and/or P.O. #:		Final Data Deliverable Email Address:	
Project Description/Location: <u>3rd West Sub RMP</u>		<u>dave@reenviro.com</u>	

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm		REQUESTED ANALYSIS												VALID MATRIX CODES		LAB NOTES:							
PLM / PCM / TEM <u>TEM</u> <u>RUSH</u> (Same Day) <u>PRIORITY</u> (Next Day) <u>STANDARD</u> (Ruah PCM = 2hr, TEM = 6hr.)		PLM - Short report, Long report, Point Count	TEM - AHERA, Level II, 7402, ISO, +/-, Quant, Semi-quant, Micro-vac, ISO-Indirect Preps	PCM - 7400A, 7400B, OSHA	DUST - Total, Respirable	METALS - Analyte(s) RCRA 8, TCLP, Welding Fume, Metals Scan	ORGANICS - METH	Salmonella: +/-	E. coli O157:H7: +/-	Listeria: +/-	Aerobic Plate Count: +/- or Quantification	E. coli: +/- or Quantification	Coliforms: +/- or Quantification	S. aureus: +/- or Quantification	Y & M: +/- or Quantification	Mold: +/-, Identification, Quantification	SAMPLES INITIALS OR OTHER NOTES	Air = A Bulk = B Dust = D Paint = P Soil = S Wipe = W Swab = SW F = Food Drinking Water = DW Waste Water = WW O = Other **ASTM E1782 approved wipe media only**					
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm																		Sample Volume (L) / Area	Matrix Code	# Containers	Date Collected mm/dd/yy	Time Collected hh:mm:ap	EM Number (Laboratory Use Only)
Metal(s) / Dust <u>RUSH</u> 24 hr. <u>3-6 Day</u>																							
RCRA 8 / Metals A Welding Fume Scan / TCLP <u>RUSH</u> 6 day <u>10 day</u>																							
Organics <u>24 hr.</u> <u>9 day</u> <u>9 Day</u>																							
MICROBIOLOGY LABORATORY HOURS: Weekdays: 8am - 6pm																							
E. coli O157:H7, Coliforms, S. aureus <u>24 hr.</u> <u>2 Day</u> <u>3-5 Day</u>																							
Salmonella, Listeria, E. coli, APC, Y & M <u>48 Hr.</u> <u>3-5 Day</u>																							
Mold <u>RUSH</u> 24 Hr <u>48 Hr</u> <u>3 Day</u> <u>9 Day</u>																							
Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.																							
Special Instructions:																							
Client sample ID number (Sample ID's must be unique)																							
1	3W11411-E		X														1.037	A	11/14/11		225/290		
2	3W11411-S																1.069				91		
3	3W11411-N																1.069				92		
4	3W11411-W																1.069				93		
5																							
6																							
7																							
8																							
9																							
10																							

Number of samples received: 4 (Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: <u>[Signature]</u> FedEx	Date/Time: <u>11/15/11</u>	Sample Condition:	On Ice	Sealed	Intact
Laboratory Use Only		Temp. (F°)	Yes / No	Yes / No	Yes / No
Received By: <u>[Signature]</u>	Date/Time: <u>11/16/11</u> Carrier: <u>FedEx</u>				
Results:	Contact <u>Dave</u> Phone <u>801 541-1035</u> Email <u>dave@reenviro.com</u> Fax <u></u>	Date <u>11/17/11</u> Time <u>11:15</u> Initials <u>EL</u>			
	Contact <u></u> Phone <u></u> Email <u></u> Fax <u></u>	Date <u></u> Time <u></u> Initials <u></u>			

Invoice # 797738099857

Attachment I

Key to Count Sheets
Count Sheets
Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

A = Amosite
An = Anthophyllite
C = Chrysotile
Cr = Crocidolite
T = Tremolite

Structure Types

F = Fiber
B = Bundle
C = Cluster
M = Matrix

ND = no structures detected
M = other structure associated with a matrix
NAM = Non Asbestos Mineral
XGB = partly obscured by a grid bar

Sizing Conversion

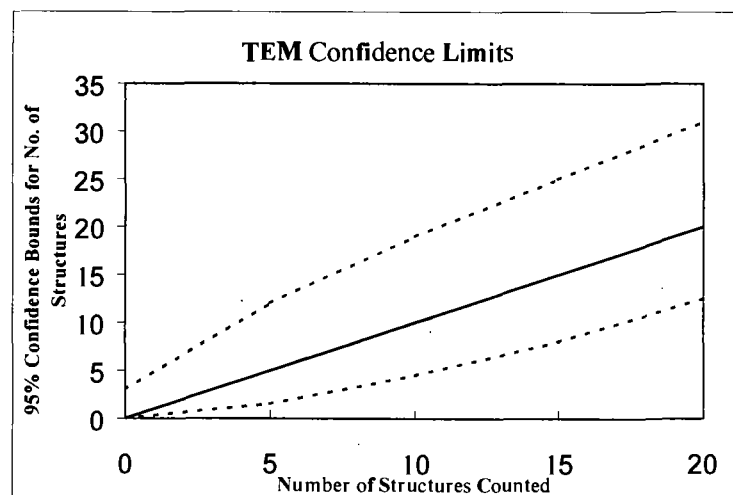
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr
Nathan DelHiero
Angela Heitger
Jonathan Bemard

Paul D. LoScalzo
Mark Steiner
Norberto Zimbleman
Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	Reservoirs Environmental, Inc.
Instrument	JEOL 100 CX N
Voltage (KV)	10.0 KV
Magnification	2000X
Grid opening area (mm ²)	0.010
Scale: 1L =	0.29 um
Scale: 1D =	0.058 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	N/A
QA Type	Not QA

Client:	R & R Environmental, Inc.
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	1037
Date received by lab	11/16/2011
Lab Job Number	224386
Lab Sample Number:	825090

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	n.zimbelman
Analysis date	11/16/2011
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules ((SO, AHERA, ASTM))	Ahera
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Client Sample ID Number 3W-111411-E

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	E4-6	ND												
	F4-3	ND												
	F4-6	ND												
	G4-1	ND												
	H4-1	ND												
	H4-4	ND												
B	H3-1	ND												
	H3-1	ND												
	G3-1	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

C:\Users\NEM\REL-LAB\Desktop\TEM Count Sheet rev. 1-11 (version 1).xlsx (version 1)

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	Reservoirs Environmental, Inc.
Instrument	JEOL 100 CX N
Voltage (KV)	100 KV
Magnification	20KX
Grid opening area (mm ²)	0.010
Scale: 1L =	0.29 um
Scale: 1D =	0.058 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	N/A
QA Type	Not QA

Client:	R & R Environmental, Inc.
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	1069
Date received by lab	11/16/2011
Lab Job Number	224386
Lab Sample Number	825091

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	n.zimbelman
Analysis date	11/16/2011
Method (D=Direct, I=indirect, IA=indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	Ahera
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Client Sample ID Number 3W-111411-5

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	H2-1	LA												
	G2-1	LA												
	F2-4	LA												
	F2-6	LA												
	F3-1	LA												
	G3-1	LA												
B	K4-4	LA												
	H4-4	LA												
	G4-4	LA												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	Reservoirs Environmental, Inc.
Instrument	JEOL 100 CX N ^(S)
Voltage (KV)	100 KV
Magnification	20KX
Grid opening area (mm ²)	0.010
Scale: 1L =	0.29 um
Scale: 1D =	0.058 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	N/A
QA Type	Not QA

Client:	R & R Environmental, Inc.
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	1069
Date received by lab	11/16/2011
Lab Job Number:	224386
Lab Sample Number:	828092

F-Factor Calculation (indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	AH
Analysis date	11/17/2011
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	Ahera
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Client Sample ID Number 3W-111411-N

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	65-4	ND												
	65-1	ND												
	FS-4	ND			Prep A: 90% intact			5-7% debris						
	FS-1	ND			Prep B ~ Prep A									
B	H5-6	ND												
	H5-3	ND												
	65-6	ND												
	65-3	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	Reservoirs Environmental, Inc.
Instrument	JEOL 100 CX N ⑤
Voltage (KV)	100 KV
Magnification	20KX
Grid opening area (mm ²)	0.010
Scale: 1L =	0.29 um
Scale: 1D =	0.058 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	N/A
QA Type	Not QA

Client:	R & R Environmental, Inc.
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	1069
Date received by lab	11/16/2011
Lab Job Number:	224386
Lab Sample Number:	825093

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	At
Analysis date	11/17/2011
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	Ahera
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Client Sample ID Number 3W-41411-W

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	H5-1	MD												
	G5-4	MD												
	G5-1	MD												
	F5-4	MD												
B	G5-6	MD												
	G5-3	MD												
	F5-6	MD												
	F5-3	MD												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Analytical Procedures – AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber:	is a structure having a minimum length greater than or equal to 0.5 micron with an aspect ratio of 5:1 or greater with substantially parallel sides.
Bundle:	is a structure composed of three or more fibers in parallel arrangement, with each fiber closer than the diameter of one fiber.
Cluster:	is a structure with fibers in random arrangements such that all fibers are intermixed and no single fiber is isolated from the group.
Matrix:	is a fiber or fibers with one end free and the other end embedded or hidden by a particulate. The exposed fiber end must meet the fiber definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

$$\text{Area Analyzed, mm}^2 = \# \text{ GO counted} \times \text{Average GO Area (mm)}$$

$$\text{Concentration, s/cc} = \frac{\# \text{ Asbestos Structures}}{\# \text{ GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2\text{)}}{\text{Average GO area (mm}^2\text{)}} \times \frac{1\text{L}}{1000\text{cc}}$$

$$\text{Filter loading, s/mm}^2 = \frac{\# \text{ Asbestos structures}}{\text{Area Analyzed (mm}^2\text{)}}$$

GO = TEM grid opening

Reservoirs Environmental, Inc.

November 18, 2011

Laboratory Code: RES
Subcontract Number: NA
Laboratory Report: RES 224473-1
Project # / P.O. #: None Given
Project Description: Rocky Mtn. Power 3rd
West Sub Station

David Roskelley
R & R Environmental
47 West 9000 South #2
Sandy UT 84070

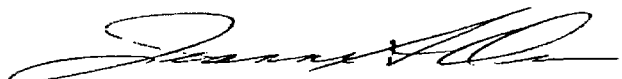
Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 224473-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,



Jeanne Spencer Orr
President

P: 303-964-1986
F: 303-477-4275

5801 Logan Street, Suite 100 Denver, CO 80216

1-866-RESI-ENV
www.reilab.com

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number: RES 224473-1
 Client: R & R Environmental
 Client Project Number / P.O.: None Given
 Client Project Description: Rocky Mtn. Power 3rd West Sub Station
 Date Samples Received: November 17, 2011
 Analysis Type: TEM, AHERA
 Turnaround: 24 Hour
 Date Samples Analyzed: November 18, 2011

Client ID Number	Lab ID Number	Area Analyzed	Air Volume Sampled	Number of Asbestos Structures Detected	Analytical Sensitivity	Asbestos Concentration	Filter Loading
		(mm ²)	(L)		(s/cc)	(s/cc)	(s/mm ²)
3W111611-E	EM 825653	0.0900	990	ND	0.0043	BAS	BAS
3W111611-S	EM 825654	0.1200	644	ND	0.0050	BAS	BAS
3W111611-N	EM 825655	0.0900	982	ND	0.0044	BAS	BAS
3W111611-W	EM 825656	0.0900	980	ND	0.0044	BAS	BAS

NA = Not Analyzed

ND = None Detected

BAS = Below Analytical Sensitivity

Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester

Filter Diameter = 25 mm

Effective Filter Area = 385 sq mm

Digitally signed
 by Elisha
 Elleman
 DN: CN = Elisha
 Elleman, C =
 US, O =
 Reservoirs
 Environmental,
 Inc.
 Date: 2011.11.18
 14:29:23 -0700

Due Date: 11-18-11
 Due Time: 5pm

RES-LAB **Reservoirs Environmental, Inc.**

8901 Logan St. Denver, CO 80216 • Pk: 303-864-1886 • Fax 303-477-4273 • Toll Free: 888-RES-ENV

Pager: 803-608-8178

Page 1 of 1

INVOICE TO: (IF DIFFERENT)

CONTACT INFORMATION:

Company: <u>D & R Environmental</u>	Company: _____	Contact: <u>Dave Roskelley</u>	Contact: <u>Justin King's</u>
Address: <u>47 W. 9000 S</u>	Address: _____	Phone: _____	Phone: _____
<u>Sandy, UT 84070</u>	_____	Fax: _____	Fax: _____
Project Number and/or P.O. #: _____	_____	Cell pager: <u>801 541-1035</u>	Cell pager: <u>801 828-5219</u>
Project Description/Location: <u>Rocky Mtn Power 3rd West Sub Station</u>	_____	E-mail: <u>dave@renviro.com</u>	_____

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm		REQUESTED ANALYSIS										VALID MATRIX CODES		LAB NOTES:	
PLM / PCM / TEM	___ RUSH (Same Day) <input checked="" type="checkbox"/> PRIORITY (Next Day) ___ STANDARD											Alr = A	Bulk = B		
(Rush PCM = 2hr, TEM = 8hr.)												Dust = D	Paint = P		
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 6pm												Sol = S	Wipe = W		
Metal(s) / Dust	___ RUSH ___ 24 hr. ___ 3-5 Day											Swab = SW	F = Food		
RCRA 8 / Metals & Welding	___ RUSH ___ 8 day ___ 10 day											Drinking Water = DW / Waste Water = WW			
Fume Scan / TCLP	___ RUSH ___ 8 day ___ 10 day											O = Other			
Organics	___ 24 hr. ___ 8 day ___ 5 Day											**ASTM E1782 approved wipe media only**			
MICROBIOLOGY LABORATORY HOURS: Weekdays: 8am - 8pm															
E.coli O157:H7, Coliforms, S.aureus	___ 24 hr. ___ 2 Day ___ 3-5 Day														
Salmonella, Listeria, E.coli, APC, Y & M	___ 48 Hr. ___ 3-5 Day														
Mold	___ RUSH ___ 24 Hr ___ 48 Hr ___ 3 Day ___ 5 Day														
Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.															
Special Instructions:															
Client sample ID number (Sample ID's must be unique)															
1	3W11611-F											990	A	11/16/11	825053
2	3W11611-S											644			SA
3	3W11611-N											982			SS
4	3W11611-W											980			SG
5															
6															
7															
8															
9															
10															

Number of samples received: 4 (Additional samples shall be listed on attached log form.)

NOTE: REI will analyze incoming samples based upon fees received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing of this company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment term of NET 30 days, failure to comply with payment terms may result in a 1.6% monthly interest surcharge.

Relinquished By: <u>Justin King's - FedEx</u>		Date/Time: <u>11/16/11</u>		Sample Condition: On Ice Sealed Intact	
Laboratory Use Only		Temp. (F°) _____		Yes / No Yes / No <u>Yes / No</u>	
Received By: <u>[Signature]</u>		Date/Time: <u>11/17/11</u>		Camera: <u>Feeder</u>	
Results:	Contact <u>Dave</u> Phone Email Fax	Date <u>11/18/11</u> Time <u>11:30a</u> Initials <u>[Signature]</u>	Contact	Phone Email Fax	Date <u>11/18/11</u> Time <u>12:45</u> Initials <u>GL</u>
	Contact _____ Phone Email Fax	Date _____ Time _____ Initials _____	Contact	Phone Email Fax	Date _____ Time _____ Initials _____

Tracy # 7954-147 4184

Attachment I

Key to Count Sheets
Count Sheets
Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

A = Amosite
An = Anthophyllite
C = Chrysotile
Cr = Crocidolite
T = Tremolite

Structure Types

F = Fiber
B = Bundle
C = Cluster
M = Matrix

ND = no structures detected
M = other structure associated with a matrix
NAM = Non Asbestos Mineral
XGB = partly obscured by a grid bar

Sizing Conversion

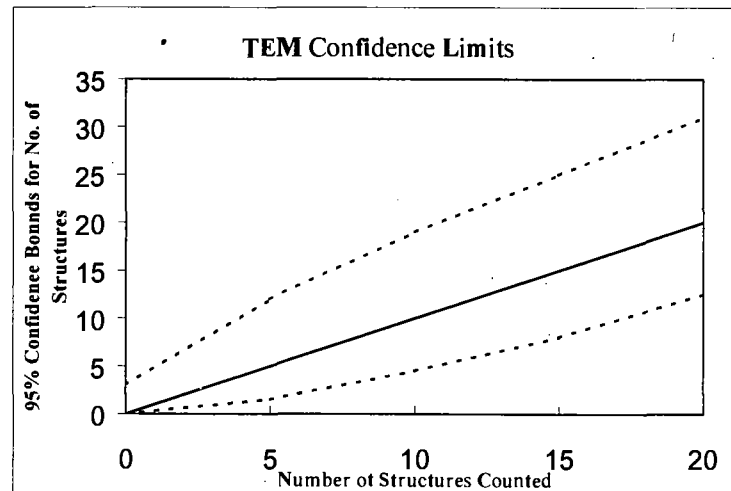
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr
Nathan DelHiero
Angela Heitger
Jonathan Bemard

Paul D. LoScalzo
Mark Steiner
Norberto Zimbleman
Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N 15
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client:	R+R
Sample Type (A=Air, D=Dust):	A
Alt volume (L) or dust area (cm2)	990
Date received by lab	11/17/11
Lab Job Number:	224473
Lab Sample Number	825653

Analyzed by	JB
Analysis date	11/17/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	Alt
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	K4-4	ND												
	H4-4	ND												
	G4-4	ND												
	F4-4	ND					Preps A & B	70% indirect			3% debris			
	E4-4	ND												
B	K3-1	ND												
	H3-1	ND												
	G3-1	ND												
	F3-1	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

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REI LAB

224473

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11/18/11

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Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Page 1 of _____

Laboratory name:	REI
Instrument	JEOL 100 CX N15
Voltage (KV)	100 KV
Magnification	200X 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	RNR
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	982
Date received by lab	11/17/11
Lab Job Number:	224473
Lab Sample Number:	825655

Analyzed by	JB
Analysis date	11/18/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	All
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes; blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	L4-3	ND												
	K4-3	ND					Pump A	80% inherent		5% debris				
	H4-3	ND					Pump B	70% inherent		5% debris				
	G4-3	ND												
B	L5-4	ND												
	K5-4	ND												
	H5-4	ND												
	G5-4	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N1S
Voltage (KV)	100 KV
Magnification	2000() 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	980
Date received by lab	11/17/11
Lab Job Number:	224473
Lab Sample Number:	825650

Analyzed by	JB
Analysis date	11/18/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volumes (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	L5-1	ND												
	K5-1	ND					Pump A	80% in tent		5% debris				
	H5-1	ND					Pump B	70% in tent		5% debris				
	G5-1	ND												
B	H3-3	ND												
	G3-3	ND												
	F3-3	ND												
	E3-3	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Analytical Procedures – AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber:	is a structure having a minimum length greater than or equal to 0.5 micron with an aspect ratio of 5:1 or greater with substantially parallel sides.
Bundle:	is a structure composed of three or more fibers in parallel arrangement, with each fiber closer than the diameter of one fiber.
Cluster:	is a structure with fibers in random arrangements such that all fibers are intermixed and no single fiber is isolated from the group.
Matrix:	is a fiber or fibers with one end free and the other end embedded or hidden by a particulate. The exposed fiber end must meet the fiber definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

$$\text{Area Analyzed, mm}^2 = \# \text{ GO counted} \times \text{Average GO Area (mm)}$$

$$\text{Concentration, s/cc} = \frac{\# \text{ Asbestos Structures}}{\# \text{ GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2\text{)}}{\text{Average GO area (mm}^2\text{)}} \times \frac{1 \text{ L}}{1000 \text{ cc}}$$

$$\text{Filter loading, s/mm}^2 = \frac{\# \text{ Asbestos structures}}{\text{Area Analyzed (mm}^2\text{)}}$$

GO = TEM grid opening

REI LAB ***Reservoirs Environmental, Inc.***

November 22, 2011

David Roskelley
R & R Environmental
47 West 9000 South #2
Sandy UT 84070

Laboratory Code: RES
Subcontract Number: NA
Laboratory Report: RES 224653-1
Project # / P.O. #: None Given
Project Description: Rocky Mtn. Power 3rd
West Sub Station

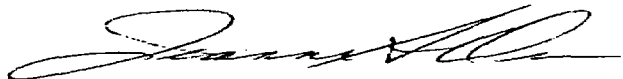
Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 224653-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,



Jeanne Spencer Orr
President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number: RES 224653-1
 Client: R & R Environmental
 Client Project Number / P.O.: None Given
 Client Project Description: Rocky Mtn. Power 3rd West Sub Station
 Date Samples Received: November 21, 2011
 Analysis Type: TEM, AHERA
 Turnaround: 24 Hour
 Date Samples Analyzed: November 22, 2011

Client ID Number	Lab ID Number	Area Analyzed (mm ²)	Air Volume Sampled (L)	Number of Asbestos Structures Detected	Analytical Sensitivity (s/cc)	Asbestos Concentration (s/cc)	Filter Loading (s/mm ²)
3W111711-E	EM 827161	0.0800	1094	ND	0.0044	BAS	BAS
3W111711-S	EM 827162	0.0800	1092	ND	0.0044	BAS	BAS
3W111711-N	EM 827163	0.0800	1090	ND	0.0044	BAS	BAS
3W111711-W	EM 827164	0.0800	1088	ND	0.0044	BAS	BAS

NA = Not Analyzed
 ND = None Detected
 BAS = Below Analytical Sensitivity
 Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester
 Filter Diameter = 25 mm
 Effective Filter Area = 385 sq mm


 Digitally
 signed by
 Gina
 Ventreano
 Date:
 2011.11.22
 10:28:21 -
 0700

DATA QA

Due Date: 11-22-11
Due Time: 9:30a

RES 224653

**Reservoirs Environmental, Inc.**

5801 Logan St. Denver, CO 80216 • Ph: 303 984-1986 • Fax 303-477-4275 • Toll Free :866 RESI-ENV

Page : 303-818-2088

INVOICE TO: (IF DIFFERENT)**CONTACT INFORMATION:**

Company: R & R Environmental	Company:	Contact: Dave Roskelley	Contact: Justin Kargis
Address: 47 W. 900DS	Address:	Phone:	Phone:
Sandy, UT 84070		Fax:	Fax:
		Cell/ Pager: 801 541-1035	Cell/ Pager: 801 828-5219
Project Number and/or P.O. #:		Fax/ Don Deliverable Email Address:	
Project Description/Location: Rocky Mtn Power 3rd West Sub Station		dave@rrenwire.com	

[illegible]

Number of samples received: (4) (Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming sample-based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis are indicated on this Chain of Custody sheet, constitutes an analytical services agreement with program terms of NET 30 days. Failure to comply with payment terms may result in a 1.0% monthly interest surcharge.

Relinquished By: <u>Justin Kozin - FedEx</u>						Date/Time: <u>11/18/11</u>						Sample Condition: On Ice <input type="checkbox"/> Sealed <input type="checkbox"/> Intact <input type="checkbox"/>			
Laboratory Use Only												Temp (F) _____			
Received By: <u>[Signature]</u>						Date/Time: <u>11/21/11 @ 9:30am</u>						Carrier: <u>Expedited</u>			
Results:	Contact	Phone	Email	Fax	Date	Time	Initials	Contact	Phone	Email	Fax	Date	Time	Initials	
	Contact	Phone	Email	Fax	Date	Time	Initials	Contact	Phone	Email	Fax	Date	Time	Initials	
												<u>11/22/11</u>	<u>1:07pm</u>	<u>[Signature]</u>	

120644. 7577 8383 8604

Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

A = Amosite
An = Anthophyllite
C = Chrysotile
Cr = Crocidolite
T = Tremolite

Structure Types

F = Fiber
B = Bundle
C = Cluster
M = Matrix

ND = no structures detected
M = other structure associated with a matrix
NAM = Non Asbestos Mineral
XGB = partly obscured by a grid bar

Sizing Conversion

1 length unit = 5 mm on screen = 0.278 micron

1.80 length units = 0.5 micron

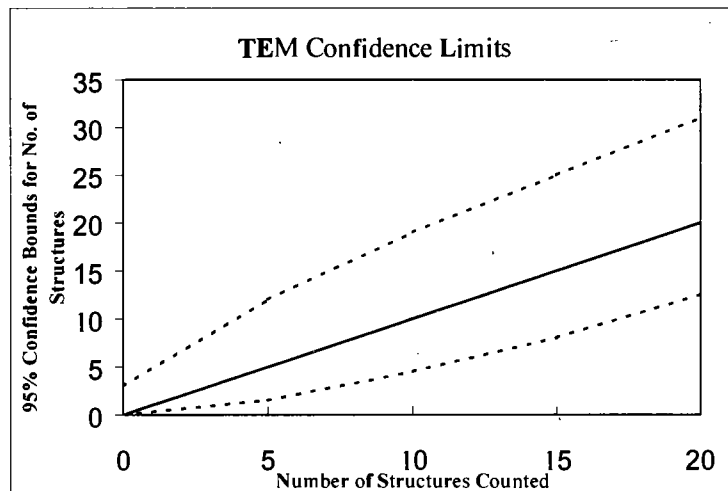
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr
Nathan DelHiero
Angela Heitger
Jonathan Bemard

Paul D. LoScalzo
Mark Steiner
Norberto Zimbleman
Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 10 =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	Ref
Sample Type (A=Air, D=Duct):	A
Air volume (L) or dust area (cm ²)	1094
Date received by lab	11/21/11
Lab Job Number:	224653
Lab Sample Number:	827161

Analyzed by:	JB
Analysis date	11/22/11
Method (D=Direct, I=Indirect, IA=Indirect, ashjet)	D
Counting mics (ISO, AHERA ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EOS
A	F4-1	ND												
	E4-1	ND												
	C4-1	ND					Preps A+B		75% intact		7-10% debris			
	B4-1	ND												
B	F5-1	ND												
	E5-1	ND												
	C5-1	ND												
	B5-1	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX-10 S
Voltage (KV)	100 KV
Magnification	20KX - 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 μ m
Scale: 1D =	0.056 μ m
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	RK
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	100
Date received by lab	11/21/11
Lab Job Number:	2-11-55
Lab Sample Number:	2-20-10-2

Analyzed by	JB
Analysis date	11/22/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Monti Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	H4-1	ND												
	G4-1	ND												
	F4-1	ND												
	E4-1	ND												
B	H6-3	ND												
	G6-3	ND												
	F6-3	ND												
	E6-3	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

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Laboratory name:	RESEARCH
Instrument	JEOL 100 CX NT S
Voltage (KV)	100 KV
Magnification	20KX - 100KX
Grid opening area (mm ²)	10.01
Scale: 1L =	0.28 um
Scale: 1D =	0.068 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client :	R3K
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	10042
Date received by lab	11/2/11
Lab Job Number:	2004750
Lab Sample Number:	2004750

F-Factor Calculation (Indirect Preps. Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	DOB
Analysis date	11/22/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	IA-D
Counting rules (ISO, AHERA, ASTM)	Air
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

[illegible]

C = Chrysotile

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Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX-N S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm ²)	10.01
Scale: 1L =	0.28 um
Scale: 1D =	0.055 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Tvue	

Client:	REI
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	100
Date received by lab	11/21/11
Lab Job Number:	201105
Lab Sample Number:	201105

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by:	DB
Analysis date	11/22/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting miles (ISO, AHERA, ASTM)	Air
Grid storage location	Month Analyzed
Scope Alignment	Dats Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	H3-4	ND					Pyp A	60% Libby type			7% debris			
	G3-4	ND					Pyp B	80% Libby type			7% debris			
	F3-4	ND												
	E3-4	ND												
B	K3-3	ND												
	H3-3	ND												
	G3-3	ND												
	F3-3	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

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Analytical Procedures – AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber:	is a structure having a minimum length greater than or equal to 0.5 micron with an aspect ratio of 5:1 or greater with substantially parallel sides.
Bundle:	is a structure composed of three or more fibers in parallel arrangement, with each fiber closer than the diameter of one fiber.
Cluster:	is a structure with fibers in random arrangements such that all fibers are intermixed and no single fiber is isolated from the group.
Matrix:	is a fiber or fibers with one end free and the other end embedded or hidden by a particulate. The exposed fiber end must meet the fiber definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

$$\text{Area Analyzed, mm}^2 = \# \text{ GO counted} \times \text{Average GO Area (mm)}$$

$$\text{Concentration, s/cc} = \frac{\# \text{ Asbestos Structures}}{\# \text{ GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2\text{)}}{\text{Average GO area (mm}^2\text{)}} \times \frac{1\text{L}}{1000\text{cc}}$$

$$\text{Filter loading, s/mm}^2 = \frac{\# \text{ Asbestos structures}}{\text{Area Analyzed (mm}^2\text{)}}$$

GO = TEM grid opening

Due Date: 11-23-11
Due Time: 9:00a

RES 224715

RES LAB Reservoirs Environmental, Inc.

5801 Logan St. Denver, CO 80216 • Ph: 303-964-1985 • Fax 303-477-4275 • Toll Free: 866-RESI-ENV
Pager: 803-809-2088

Page 1 of 1

INVOICE TO: (IF DIFFERENT)

CONTACT INFORMATION:

Company: R & R Environmental	Company:	Contact: Dave Roskelley	Contact: Justin Kong's
Address: 47 W. 9000 S Sandy, UT 84070	Address:	Phone:	Phone:
		Fax:	Fax:
		Cell/pager: 801 541-1035	Cell/pager: 801 828-5219
Project Number and/or P.O. #:		Final Date Delivered by Email Address:	
Project Description/Location: Rocky Mtn Power 3rd West Sub Station		dave@rrenviro.com	

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 5pm		REQUESTED ANALYSIS										VALID MATRIX CODES		LAB NOTES:								
PLM / PCM (TEM) <u> </u> RUSH (Same Day) <u> </u> PRIORITY (Next Day) <u> </u> STANDARD	(Rush PCM = 2hr, TEM = 8hr.)	PLM - Short report, Long report, Point Count	TEM - AHERA, Level II, 7402, ISO, +/-, Quant.	Sent-quant, Micro-quant, ISO-Indirect Preps	PCM - 7400A, 7400B, GSHA	DUST - Total, Respirable	METALS - Analyticals	RCRA 8, TCLP, Wicking Furnace, Metals Scan	ORGANICS - METH	Salmonella: +/-	E. coli O157:H7: +/-	Listeria: +/-	Aerobic Plate Count: +/- or Quantification	E. coli +/- or Quantification	Coliforms: +/- or Quantification	S. aureus: +/- or Quantification	Y & W: +/- or Quantification	Mold: +/-, Identification, Quantification	SAMPLES INITIALS OR OTHER NOTES	Ar = A	Bulk = B	
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 8pm																				Dust = D	Paint = P	
Metal(a) / Densit <u> </u> RUSH <u> </u> 24 hr. <u> </u> 3-8 Day																				Soil = S	Wipe = W	
RCRA 8 / Metals & Welding <u> </u> RUSH <u> </u> 5 day <u> </u> 10 day																				Swab = SW	F = Food	
Fume Scan / TCLP <u> </u> RUSH <u> </u> 5 day <u> </u> 10 day																				Drinking Water = DW	Waste Water = WW	
Organics <u> </u> 24 hr. <u> </u> 3 day <u> </u> 8 Day		O = Other																				
MICROBIOLOGY LABORATORY HOURS: Weekdays: 8am - 6pm		**ASTM E1702 approved wipe media only**																				
E. coli O157:H7, Coliforms, S. aureus <u> </u> 24 hr <u> </u> 2 Day <u> </u> 3-8 Day		Sample Volume (L) / Area	Matrix Code	Date Collected mm/dd/yy	Time Collected hh:mm a/p	EM Number (Laboratory Use Only)																
Salmonella, Listeria, E. coli, APC, Y & M <u> </u> 48 Hr. <u> </u> 3-5 Day		# Containers																				
MOM <u> </u> RUSH <u> </u> 24 Hr <u> </u> 48 Hr <u> </u> 3 Day <u> </u> 5 Day																						
Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.																						
Special Instructions:																						
Client sample ID number (Sample ID's must be unique)																						
1	3W11811-E					948	A	11/18/11		827022												
2	3W11811-S					948				23												
3	3W11811-N					942				24												
4	3W11811-W					942				25												
5																						
6																						
7																						
8																						
9																						
10																						

Number of samples received: 4 (Add Manual samples shall be listed on attached long form.)

NOTE: RO will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from inaccurate or original data. By signing, client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest charge.

Relinquished By: Justin Kong's - FedEx	Date/Time: 11/21/11	Sample Condition:	On Ice	Sealed	Intact
Laboratory Use Only		Temp. (F°)	Yes / No	Yes / No	Yes / No
Received By: [Signature]	Date/Time: 11-23-11 9:00a Carrier: FedEx				
Results:	Contact: Dave (Phone Email Fax)	Date: 11/23/11	Time: 7:20a	Initials: [Signature]	Contact: [Signature]
	Contact: [Signature]	Date: 11/23/11	Time: 12:10	Initials: [Signature]	Contact: [Signature]

Track # 7079 503# 1207

Attachment I

Key to Count Sheets
Count Sheets
Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

A = Amosite
An = Anthophyllite
C = Chrysotile
Cr = Crocidolite
T = Tremolite

Structure Types

F = Fiber
B = Bundle
C = Cluster
M = Matrix

ND = no structures detected
M = other structure associated with a matrix
NAM = Non Asbestos Mineral
XGB = partly obscured by a grid bar

Sizing Conversion

1 length unit = 5 mm on screen = 0.278 micron

1.80 length units = 0.5 micron

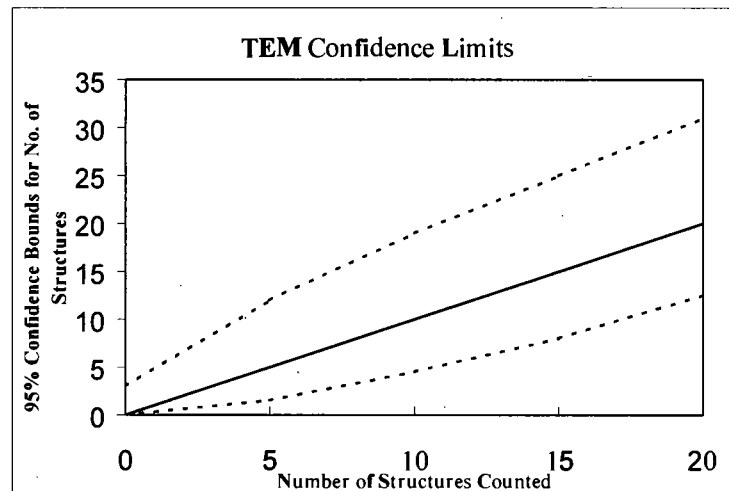
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr
Nathan DelHiero
Angela Heitger
Jonathan Bernard

Paul D. LoScalzo
Mark Steiner
Norberto Zimbleman
Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX - N S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.066 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R + R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	948
Date received by lab	11/22/11
Lab Job Number	224715
Lab Sample Number	827022

Analyzed by	AK
Analysis date	11/22/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	A4
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	F4-1	ND												
	E4-1	ND					Prep A	~80% intact		3-5 debris				
	C4-1	ND					Prep B	~50% intact		3-5 debris				
	C4-6	ND						pen from		11/22/11				
	B4-6	ND												
B	E5-1	ND												
	C4-6	ND												
	C4-4	ND												
	K5-3	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

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Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	20KX 710KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	P-R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	94.8
Date received by lab	11/22/11
Lab Job Number:	22475
Lab Sample Number:	82-165-3

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	MC
Analysis date	11/22/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	F4-4	ND												
	F3-6	ND					Prep A	~70% intact	~57	debris				
	F2-6	ND					Prep B	~A	seen broken	11/22/11				
	C2-1	ND												
B	F3-4	ND												
	E3-4	ND												
	C3-4	ND												
	F4-3	ND												
	E4-3	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

T:\BAC\Lab\TEM\Lab Docs\TEM Count Sheet rev. 1-11.xls

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 μ m
Scale: 1D =	0.056 μ m
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	P-R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	542
Date received by lab	1/22/11
Lab Job Number:	224715
Lab Sample Number:	82-A-62-4

Analyzed by	MC
Analysis date	1/22/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	A4
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EOS
A	G3-1	ND												
	F3-1	ND					Prer A 80% intact 3-5% debris							
	E3-1	ND					Prer B 60% intact 3-5% debris							
	K4-4	ND					See Perm 1/22/11							
	H4-4	ND												
B	F5-6	ND												
	E5-6	ND												
	C5-1	ND												
	B5-1	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

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Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

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Laboratory name:	REI
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	20KX-40KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client:	P-R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	94.2
Date received by lab	11/22/11
Lab Job Number:	22415
Lab Sample Number:	824625

Analyzed by	MC
Analysis date	11/22/11
Method (D=Direct, I=Indirect, IA=Indirect ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	H4-4	ND												
	K4-6	ND					Prep A ~80% intact				5-7% debris			
	G4-6	ND					Prep B ~10% for prep				11/22/11			
	F4-6	ND												
	F4-4	ND												
B	F3-3	ND												
	E3-3	ND												
	C3-3	ND												
	B3-3	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

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Analytical Procedures – AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber:	is a structure having a minimum length greater than or equal to 0.5 micron with an aspect ratio of 5:1 or greater with substantially parallel sides.
Bundle:	is a structure composed of three or more fibers in parallel arrangement, with each fiber closer than the diameter of one fiber.
Cluster:	is a structure with fibers in random arrangements such that all fibers are intermixed and no single fiber is isolated from the group.
Matrix:	is a fiber or fibers with one end free and the other end embedded or hidden by a particulate. The exposed fiber end must meet the fiber definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

$$\text{Area Analyzed, mm}^2 = \# \text{ GO counted} \times \text{Average GO Area (mm)}^2$$

$$\text{Concentration, s/cc} = \frac{\# \text{ Asbestos Structures}}{\# \text{ GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2\text{)}}{\text{Average GO area (mm}^2\text{)}} \times \frac{1\text{L}}{1000\text{cc}}$$

$$\text{Filter loading, s/mm}^2 = \frac{\# \text{ Asbestos structures}}{\text{Area Analyzed (mm}^2\text{)}}$$

GO = TEM grid opening